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4. TITLE AND SUBTITLE <b>Cold Injury in Afghanistan: Comparison to Past Conflicts</b>			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) <b>Andrew Hall</b>			5d. PROJECT NUMBER <b>FKE20090020E</b>		
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13. SUPPLEMENTARY NOTES					
14. ABSTRACT <b>Frostbite has historically been most common in military populations. Recent conflicts in the United States have until Afghanistan been fought in warm weather areas. The most recent reports of cold injury in the United States military have been from the 1980s. The purpose of this inquiry is to investigate the extent of the problem currently and what improvements have been made. A total of 19 cases of cold weather injury were identified in the Afghanistan conflict. 2 cases of frostbite were identified with only one likely requiring surgical intervention. No cases were identified in Iraq. The 19 cold weather injuries represents a dramatic decrease from the 6300 cases of cold weather injury seen in the last major cold weather conflict, the Korean War. This is due to the shorter and weather dependent engagements, cold weather education, and improved equipment of US and allied personnel.</b>					
15. SUBJECT TERMS <b>Frostbite; Cold Weather Injury; Afghanistan; Operations Enduring Freedom and Iraqi Freedom</b>					
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a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

**81<sup>st</sup> Medical Group  
Keesler AFB, Mississippi**

**Exempt (Human) Research Protocol**

**This is a Progress Report \_\_\_\_\_ / Final Report XX**

**1. Protocol Number:** FKE20090020E

**2. Title:** "Cold Injury in Afghanistan: Comparison to Past Conflicts"

**3. Principal Investigator (PI):** Andrew Hall, Capt, USAF, MC, General Surgery, 81 MSGS/SGCQ, Phone (228) 376-4901, Beeper 169-0246

**4. Purpose:** Frostbite has historically been most common in military populations. Recent conflicts in the United States has until Afghanistan been fought in warm weather areas. The most recent reports of cold injury in the United States military have been from the 1980s. The purpose of this inquiry is to investigate the extent of the problem currently and what improvements have been made.

**5. Status of the Study.** Mark the status of the study (a-e).

- a. \_\_\_\_\_ Active with ongoing data collection. Request approval to remain open.
- b. \_\_\_\_\_ Active with data collection complete. Request approval to remain open.
- c. \_\_\_\_\_ Study was never initiated and request termination of the study.
- d.   X   Completed, research implemented and results available. Request approval to close.
- e. \_\_\_\_\_ Inactive, protocol never initiated, but want to keep in open. Request approval to remain open.

**6. Summary of Progress:** This report covers the following period of time: August 2009 – July 2010

- a. Since last progress report or initiation of study: Study completed with publication pending.
- b. For the entire study: I have completed 100% of the study.
- c. If this is a FINAL REPORT:

- 1. Were the protocol objectives met and how will the outcome benefit the DoD/USAF?

All objectives were met. The benefit is an understanding of the current problem of cold injury in the current cold weather conflict and how it compares to previous conflicts.

- 2. Protocol Outcomes Summary: *(Please provide in abstract format a summary of the protocol objectives, materials, methods, and results. Include tables/figures, conclusions, and applications)*

**OBJECTIVE:** The war in Afghanistan represents the first large-scale conflict involving military troops in a cold, mountainous climate since the Korean War. An analysis was conducted to identify the extent of cold weather injuries, especially frostbite, in the deployed military population.

**DESIGN:** A retrospective analysis of military databases was conducted with tabulation of all cases of cold weather injuries in Operations Enduring Freedom and Iraqi Freedom. Casualties reviewed occurred between 2001 and 2009.

**RESULTS:** A total of 19 cases of cold weather injury were identified in the Afghanistan conflict. 2 cases of frostbite were identified with only one likely requiring surgical intervention. No cases were identified in Iraq.

**CONCLUSIONS:** The 19 cold weather injuries represents a dramatic decrease from the 6300 cases of cold weather injury seen in the last major cold weather conflict, the Korean War. This is due to the shorter and weather dependent engagements, cold weather education, and improved equipment of US and allied personnel.

◀ IF THIS IS A FINAL REPORT PROCEED TO # 9 ▶

**7. Protocol Changes:**

- a. \_\_\_\_\_ No changes are anticipated and the project will continue as previously approved by the IRB.
- b. \_\_\_\_\_ Changes are anticipated as described below: *(Description.....)*
- c. When do you anticipate PCSing or separating? \_\_\_\_\_ *(Insert Date)*

**8. Protocol Personnel Changes:**

Has there been any Principal or Associate Investigator (PI/AI) changes since approval of protocol or the last continuation review? \_\_\_\_ Yes \_\_\_\_ No. If yes, complete the following sections (Additions/Deletions). For PI/AI changes, indicate whether or not the IRB approved this change.

- a. **Additions:** *(Include Name, Protocol function - PI/AI IRB approval - Yes/No)*
- b. **Deletions:** *(Include Name, Protocol function - PI/AI. Effective date of deletion)*

**9. Status of Approved Funding:** No funding from the Surgeon General Office (SGO) was requested in my original protocol.

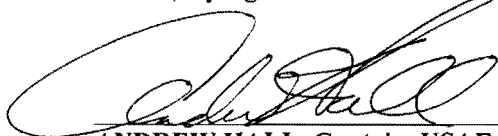
**10. Publications/Presentations/Awards:** *(List OR attach any scientific publications, presentations, and/or awards that have resulted from this protocol. Include pending/scheduled publications, presentations, or awards. Also include date of submission/acceptance, location and date of presentation, location and date of award.)*

Hall A, Kendrix E, Pribyl S. Cold Injury in U.S. Military Population: Current Trends and Comparison to Past Conflicts. Journal of Surgical Education. Publication Pending

Presentation: April 2010 Society of Air Force Clinical Surgeons Conference

**11. Certification of Principal Investigator**

My signature certifies that the above titled research has been conducted in full compliance with the HHS/FDA Regulations and IRB requirements/policies governing human subject research. I understand that a Progress Report is required in order to maintain continuation approval and any changes in the study/methodology must be approved by the IRB prior to implementation. If the study has never been initiated and I am requesting termination (Item 5.c. above), my signature certifies this request. If the study is completed (Items 5.d. & 6.c. above) and I am requesting closure, my signature certifies that the information provided on this form represents an accurate final report.



ANDREW HALL, Captain, USAF, MC  
Surgery Research Resident

29 Jul 2010  
Date